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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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MAR 15 2002

Ref: 8P-AR

Terry L. O'Clair, Director  
Division of Air Quality  
State Department of Health  
P.O. Box 5520  
Bismarck, North Dakota 58506-5520

Dear Terry:

I received your recent letter regarding the use of continuous emission monitoring system (CEMS) data from EPA's acid rain database for determining compliance with PSD increments. As you know, we have recently completed a draft modeling analysis using these data and are considering any comments on our analysis received by April 5, 2002. We would like to briefly respond to your comments on the use of acid rain data now and will also be responding to yours and to any other comments we receive before issuing a final version of our modeling.

In your February 27, 2002 letter, you indicate that the 1999 data in the acid rain database may be biased high and do not accurately reflect actual emissions. This issue of CEMS bias has come up frequently in discussions we have had with you and the electric utility industry, as a whole, has raised similar concerns to EPA. Specifically, we understand the concern is that, under some flow conditions, EPA's approved test method for volumetric flow rate (Method 2) does not include procedures for measuring the yaw/pitch angles of flow or wall effects in calculating stack gas velocity or volumetric flow rate. While this concern has been raised before by your department and other companies, EPA continues to believe that the Acid Rain Program CEMS data is the most accurate data for determining compliance with PSD increments.

Under 40 CFR Part 75 (Acid Rain Program emissions monitoring), CEMS data are subject to more stringent certification and ongoing quality assurance requirements than under the New Source Performance Standards (NSPS). These tougher QA requirements make the emissions data more accurate and more desirable to use in a modeling exercise.

Part 75 also requires the use of missing data when quality assured CEMS data is unavailable. The vast majority of this missing data is determined by taking the average of the hour before and the hour after the missing data period and does not bias the emissions in any way. In situations where the CEMS is out of control for an extended period of time, a somewhat higher value is substituted. If any of these extended out-of-control situations occurred during the PSD increment modeling period, EPA would consider some adjustments to the data.



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Part 75 requires the use of a bias adjustment factor (BAF) when the installed CEMS data is consistently lower than the test method data during a relative accuracy test. The BAF is a one-tailed t-test that only allows data to be adjusted upward to the level of the test method data. The BAF is designed to help prevent underreporting of emissions. The source always has the option to correct the cause of the low bias and then pass the bias test. The bias test only allows data to be adjusted upward because if the CEMS data were consistently higher than the test method, the source presumably would have the incentive to avoid overreporting emissions and would correct the causes of any high bias by itself. In any case, the CEMS would need to pass the relative accuracy test, assuring that the data were accurate.

The option for a source to use one or more of EPA's new flow test methods starting on July 13, 1999 does not automatically necessitate an adjustment to the source's historical flow data. The historical flow data is still considered by EPA to be the best available at the time and can and should be used for PSD increment modeling. The only way that any adjustment to account for a change in flow test methods could be considered by EPA is if a strict comparison between Method 2 and the new flow method were submitted for the time period in question. Such an analysis would need to hold constant a number of factors that could affect stack gas flow such as, the amount of excess air, changes in control equipment or control equipment operation, stack gas moisture content, changes in fuel or fuel heat content, plant load, as well as the ducting of effluent, i.e., if the unit(s) have a common, multiple or complex stack. Since PSD increment analyses are based on maximum (or near maximum) actual emissions from the facilities, the submittal would need to document that a bias is occurring when the plant(s) is operating at or near maximum load. EPA would then determine if a bias can be claimed and for what purpose. To date, no source has been given retroactive 'credit' by EPA for any such bias.

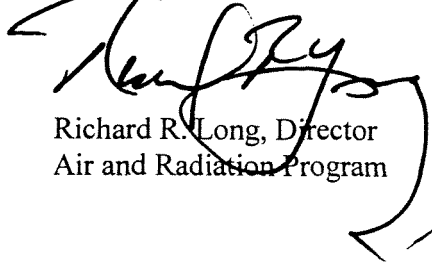
In response to your July 3, 2001 letter to all major sources requesting input on baseline emissions, one company compared emissions measured by their CEMS with emissions calculated based on AP-42 emission factors. Based on this comparison, the company proposed a reduction in 2000 CEMS data by 11.8% for modeling purposes. This 11.8% represented the difference in emissions when comparing CEMS data with calculated emissions based on AP-42. The company indicated that, due to possible problems with the reference methods for the flow monitors, the CEMS could be indicating emissions that are much higher than what was actually occurring. The company's proposal does not address uncertainties in data used in the AP-42 calculation. Thus, the apparent difference between the two methodologies may be related to problems in the AP-42 data rather than CEMS bias. This would not be considered an acceptable justification for considering an 11.8% bias at this company. In your February 27, 2002 letter you indicate that, based on conversations with industry, biases as high as 20% could exist however no details are provided in support of that.

In the absence of any approved source petition, we consider the quality assured data certified by the Designated Representative and submitted to the acid rain database (which is the public record for these data) to be the best data available for use in an increment analysis, and certainly more reliable than emission estimates based on AP-42 factors.

We anticipate that when we finalize our increment modeling analysis, data will be available for the year 2001 from the acid rain database. Our final modeling analysis will, therefore, likely be based on year 2000 and year 2001 data and not on year 1999 data. Thus this issue may become moot. In any case, if a source makes an acceptable demonstration to EPA that a bias exists for *any* of the years used in our modeling analysis, we will certainly factor that in to our final results.

If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Long", is written over the typed name. The signature is fluid and cursive, with a large loop at the end.

Richard R. Long, Director  
Air and Radiation Program